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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/988,039	11/16/2001	Kazuki Karasawa	110825	7854

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EXAMINER

CHOWDHURY, TARIFUR RASHID

ART UNIT PAPER NUMBER

2871

DATE MAILED: 06/30/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/988,039

Applicant(s)

KARASAWA ET AL.

Examiner

Tarifur R Chowdhury

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 November 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,4,7,8,13-15,18 and 19 is/are rejected.
- 7) ☒ Claim(s) 3,5,6,9-12,16 and 17 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 November 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 5.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Specification

2. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. **Claims 1, 2, 7, 8, 13 and 14 are rejected under 35 U.S.C. 102(b) as being anticipated by Hiroyasu et al., (Hiroyasu), JP 11-119242 (provided by the applicant).**
5. Hiroyasu discloses in the abstract as well as in pages 3-7 (machine translation is included for applicant's convenience) and shows in Figs. 1-4, an electro-optical device, comprising:
 - a liquid crystal material (14) (applicant's electro-optical substance) sandwiched by a first substrate (10) and a second substrate (12);
 - a sealing material (16) disposed between the first substrate (10) and the second substrate (12) that bonds the first substrate and the second substrate

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to each other at a sealing region along peripheries of the first substrate and the second substrate;

- a plurality of pixel electrodes (not shown) disposed on the first substrate (10) in an image display region that is enclosed by the sealing region (pages 3-4, paragraph 0018);
- connection wiring (30) (applicant's wire) provided on the first substrate (10) that extend from an inside of the image display region to a position that is outside of the sealing region;
- a terminal electrode (22) (applicant's vertically conductive pad) disposed along the sealing region (Fig. 3(a));
- an opposing electrode (18) provided on the second substrate (12) that opposes the pixel electrodes, the opposing electrode including a vertical conductor section that opposes the vertically conducting pad,

wherein at least one part of the sealing material, which is disposed between the vertically conducting pad and the vertically conducting section, includes an electrically conductive material.

Accordingly, claim 1 is anticipated.

As to claim 2, Hiroyasu also shows in Fig. 3(a) that the vertically conductive pad (22) at least occupies one of three given sides of the sealing region.

As to claims 7, 8 and 13, Hiroyasu also discloses that the conductive paste is not limited to a silver paste, and as long as it is material with conductivity, it may use all

material, such as thermosetting resin, which mixed the metal powder (page 6, paragraph 0039).

As to claim 14, since the method of manufacturing the device is merely a list of forming each element and each element must be formed to make the device, the method of manufacturing would be inherent to the device.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

8. **Claims 4, 15, 18 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hiroyasu as applied to claims 1, 2, 7, 8, 13 and 14 above.**

9. As to claim 4, mixing gap controlling members in the sealing material to keep the gap between the substrates constant and thus obtain a device that has uniform spacing

between the substrates is common and known in the liquid crystal art and thus would have been obvious.

As to claim 15, Hiroyasu does not explicitly disclose that the vertically conductive pad are planarized. However, it is common and known in the art to planarized a conductive pad for several reasons, such as to obtain a flat surface and thus maintaining a uniform gap between the substrates and thus would have been obvious.

As to claim 18, bonding two substrates with a sealing material wherein the sealing material is heated is a common and known way to bond to substrates with a sealing material and thus would have been obvious to avail a proven technique.

As to claim 19, using the electro-optical device in a projection display is considered as intended use and thus would have been obvious. Typically a projection display includes a light source, a light guide member and a projection optical element (see class 349, subclass 5).

Allowable Subject Matter

10. Claims 3, 5, 6, 9-12, 16 and 17 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

a) USPAT 5,973,763, assigned to the same assignee as the instant application, is related to a liquid crystal display device wherein a plurality of supporting

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columns are placed in a plane substantially uniformly along the outer periphery of the seal material.

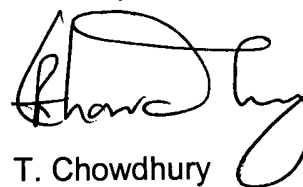
b) US 2002/0109815 is related a liquid crystal display having sealing materials and spacers.

c) USPAT 6,335,779 is related to a liquid crystal display device wherein gap controlling member is mixed in the sealing material.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tarifur R Chowdhury whose telephone number is (703) 308-4115. The examiner can normally be reached on M-Th (6:30-5:00) Friday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert H. Kim can be reached on (703) 305-3492. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 746-7005 for regular communications and (703) 308-7724 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1782.



T. Chowdhury
Primary Examiner
Technology Center 2800

TRC
June 23, 2003